

June 27, 1990

The Groundwater Technology, Inc. (GTI) report outlines a fairly comprehensive understanding of the extent of contamination

M. R. Bratton

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June 27, 1990

Ms. Kelly L. Kincaid
Hydrogeologist
Pennsylvania Department of
Environmental Resources
1875 New Hope Street
Norristown, PA 19401

RE: Scott Paper - Chester Operations
Groundwater Monitoring

Dear Ms. Kincaid:

As per your letter dated June 5, 1990 requesting the results of the groundwater monitoring program in the areas where underground storage tanks (UST's) were removed, please find enclosed the report generated by Groundwater Technology, Inc. summarizing the results of three groundwater sampling events from the monitoring wells installed as outlined by our initial work plan dated 11/28/89 (D. R. Haldeman to C. L. Steele - Soil/Groundwater Monitoring and Remediation Work Plan). In addition to the groundwater sampling events, soil samples taken during the monitoring well installation were also evaluated for selected parameters. The soil samples were tested for benzene, toluene, ethylbenzene, and xylene (BTEX) and total petroleum hydrocarbons (TPH's) except for samples taken near the vicinity of the waste oil tank. Soil samples taken in the area where the waste oil tank was excavated were also tested for PCB's. Water samples taken from the monitoring wells on three separate sampling events were tested for BTEX, TPH, and two samples were analyzed for semi-volatile compounds. In addition, the water levels in all of the wells and the Delaware River were gauged on three occasions to determine groundwater gradients and predict direction of groundwater movement.

The results of this testing program identified four areas where the selected parameters were detected. These four areas are as follows:

- Xylene in groundwater and soil near the former xylene and kerosene tanks;
- PCB's in soil and TPH in soil and groundwater near former waste oil tank;
- TPH in soil near former gasoline tank;
- TPH in soil near out-of-service No. 6 oil tank.

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The Groundwater Technology, Inc. (GTI) report outlines a fairly comprehensive understanding of the extent of contamination near the former kerosene and xylene tanks. In this area, GTI has recommended in situ bioremediation which will address all known compounds in this area, both in the soil and groundwater. Nutrients will be added to the gravel in this area (existing site conditions - large size, rock backfill - is ideally suited for nutrient infiltration). Oxygen will be supplied to the unsaturated zone with the infiltrating water. Short term air sparging will be used to maintain dissolved oxygen at sufficient levels to sustain bioremediation within deeper saturated zones as well as supplying additional oxygen to the unsaturated zone. Please see attached general scope of work with a timetable for the actual design and implementation of a remediation system.

Based on the results of the GTI report, additional investigation work will be conducted in the vicinity of the waste oil tank to determine the extent of the PCB and TPH contamination. After this additional testing is completed, we propose that a detailed remediation plan be submitted to the Department. Please see attached general work plan scope for the area of the former waste oil tank. In our meeting of May 21, 1990, you expressed concern over the presence of PCB's in detectable quantities in the vicinity of the waste oil tank. In checking plant records, there formerly was a PCB containing transformer in the vicinity of the former waste oil tank. This transformer was removed approximately two years ago.

The concentrations of TPH near both the former gasoline and out-of-service No. 6 oil tank (a request to permanently abandon in-place this UST has been submitted to the Department for review) are generally low. In these two areas we propose that no further action due to the relatively low concentrations and immobility of the observed TPH levels, the historical industrial land usage, and the lack of groundwater users surrounding the site.

If you have any questions concerning the information supplied with this letter, require additional information, or have any comments on the work plan, please contact me at (215) 499-6104 as soon as possible.

Sincerely,

David R. Haldeman

David R. Haldeman
ENVIRONMENTAL SPECIALIST

DRH:jh
Enclosures

cc: Mr. R. K. Anderson
Mr. R. Breitenstein - PADER
Mr. M. M. Caron - Staff
Ms. A. E. Perry - Groundwater Technology

SCOTT PAPER COMPANY - CHESTER OPERATIONS

GROUNDWATER AND SOIL REMEDIATION
PROPOSED WORK PLAN

Xylene - Kerosene Tank Area

<u>Action Item</u>	<u>Timing</u>
1. Further investigation - confirm limits of the plume	July 16, 1990 - Sept. 18, 1990
2. Feasibility studies - evaluate effectiveness of proposed in situ bioremediation program and to study subsurface characteristics that may affect remediation efforts.	*Aug. 13, 1990 - Oct. 1, 1990
3. Detailed design of bioremediation system.	Sept. 17, 1990 - Oct. 22, 1990
4. Submit detailed design to the Department for review and design	Oct. 22, 1990
5. Remediation system installation.	**Nov. 28, 1990 - Jan. 28, 1991
6. System start-up/initial test work.	Jan. 17, 1991 - Feb. 18, 1991
7. System monitoring and maintenance.	Feb. 4, 1991 -

Waste Oil Tank Area

<u>Action Item</u>	<u>Timing</u>
1. Additional soil borings (6-8) and monitoring wells (2-3) to define limits and address extent of contamination.	July 16, 1990 - Sept. 18, 1990
2. Evaluate results of additional test work and develop preliminary work plan.	Aug. 13, 1990 - Oct. 1, 1990
3. Submit remediation plan to PADER.	Oct. 15, 1990

* All times following feasibility study phase assume written agreement from the Department with the work plan.

** All times following agreement phase assume written Department approval received within 4 weeks. Any delay in getting agreement from the Department will delay schedule by equivalent amount of time.